Important Advances in Clinical Medicine

Epitomes of Progress -- Ophthalmology

The Scientific Board of the California Medical Association presents the following inventory of items of progress in Ophthalmology. Each item, in the judgment of a panel of knowledgeable physicians, has recently become reasonably firmly established, both as to scientific fact and important clinical significance, The items are presented in simple epitome and an authoritative reference, both to the item itself and to the subject as a whole is generally given for those who may be unfamiliar with a partciular item. The purpose is to assist the busy practitioner, student, research worker or scholar to stay abreast of these items of progress in Ophthalmology which have recently achieved a substantial degree of authoritative acceptance, whether in his own field of special interest or another.

The items of progress listed below were selected by the Advisory Panel to the Section on Ophthalmology of the California Medical Association and the summaries were prepared under its direction.

Reprint requests to: Division of Scientific and Educational Activities, 693 Sutter Street, San Francisco, Ca. 94102.

Hydrophilic "Soft" Contact Lenses

A VARIETY OF "SOFT" CONTACT lenses are under investigation. To date, only the Bausch and Lomb lens has FDA approval, and that only for cosmetic use. None are approved at this time for therapeutic use in ocular diseases. Investigational use of soft lenses in disease states indicates that they will be of significant value in the treatment of dry eye conditions, corneal ulcers, Stevens-Johnson syndrome, ocular pemphigoid, and bullous keratopathy. As there are sharp differences between the various kinds of lenses in composition, tolerance, and absorption and in release of medication, each lens type may find different use indications.

In contrast to hard contact lenses, soft lenses can be comfortably worn over pathologically irregular corneal epithelium, functioning effectively as a patch to reduce eyelid and external irritative factors to allow healing and epithelialization. In bullous keratopathy symptomatic relief is often obtained. No significant improvement in the appearance of the corneal disease is brought about by the lens itself, and consequently no improvement of visual acuity ensues unless used with 5 percent hypertonic saline solution without preservative. In advanced cases removal of the pathologic epithelium and use of cycloplegic agents, antibiotics and hypertonic saline solutions with insertion of the soft lens may give significant improvement.

Preliminary studies on glaucoma patients indicate that the intraocular pressure effect of pilocarpine is greatly enhanced when used with a hydrophilic lens. However, no conventional eye drops can be used with the present soft lens because the concentration of the preservative in the lens destroys the corneal epithelium.

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Kaufman HE, Uotila MH, Gasset AR, et al: The medical uses of soft contact lenses. Trans Am Acad Ophthalmol Otolaryngol 75:361-373, Mar-Apr 1971

Blow-out Fractures of the Orbital Floor

FRACTURES OF THE ORBIT AND ORBITAL floor are commonplace, and since 15 to 20 percent of the orbital fractures are associated with serious ocular injuries, ophthalmological consultation is indicated.

Surgical repair of fractures of the floor of the orbit are performed to correct diplopia and to prevent enophthalmos. However, it is felt that this operation should be postponed until the orbital edema and hemorrhages have had time to subside, usually within two weeks. Many of the cases of diplopia do clear up spontaneously and no difference in the prognosis has been demonstrated when operation is delayed that long.

Several cases of visual loss have occurred following orbital floor repair due either to direct trauma to the optic nerve or its blood supply at the time of operation or from compression by a resulting orbital hemorrhage. Operation by a well-trained team that includes an ophthalmologist, and careful daily postoperative examinations, including confrontation fields and ophthalmoscopic study in addition to bedside determination of visual acuity, should keep these serious complications to a minimum.

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Nicholson DH, Guzak JR SV: Loss of vision after repair of orbital floor fractures. Trans Am Acad Ophthalmol Otolaryngol 75:896, Jul-Aug 1971

Management of Congenital Cataracts

EARLY OPERATION FOR bilateral congenital cataracts, whether they are due to rubella, heredity or metabolic disease, is indicated according to most authorities. With the use of contact lenses fitted in the operating room, it is feasible to do a unilateral cataract operation with hope of obtaining some useful vision, although the results so far are not always encouraging.

The reintroduction of the aspiration type of lens extraction in cataracts of infancy and childhood by Scheie, is the generally accepted method today. His principle of using a large-gauge needle is the basis of the operation although there have been many modifications by various surgeons. Long term post-operative use of mydriatics and cycloplegics seems to be imperative.

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Ryan J, von Noorden CK: Further observations on the aspiration technique in cataract surgery. Am J Ophthalmol 71:626-630, Mar 1971

Microsurgery in Open Angle Glaucoma

THE MAIN TREATMENT OF OPEN angle glaucoma is medical, and with the stronger miotics and the carbonic anhydrase inhibitors it was hoped that operation would not be indicated. However, some of the medications were not tolerated or became ineffective, so it is necessary to operate in a number of these cases. The classical antiglaucomatous filtration operations have many complications, the main one being the progression of cataracts.

With the advent of microsurgical techniques, three new methods have been devised:

1. Trabeculotomy, in which a slit is made to open the corneoscleral meshwork and establish a direct communication between Schlemm's canal and anterior chamber.